## REMARKS

In the Office Action mailed February 1, 2010 from the United States Patent and Trademark Office, Claims 1-5, 7, 8, 13, 15, 16, 18 and 19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Wells et al. (U.S. Patent 5505409) in view of Falco et al. (U.S. Patent 5133519) and in further view of Fronek et al. (U.S. Patent 5848769), and Claims 9, 10, 12, and 17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Wells et al. (U.S. Patent 5505409) and Falco et al. (U.S. Patent 51233519) and Fronek et al. (U.S. Patent 5848769) as applied to claims 1 and 18 above, and further in view of Smith et al. (U.S. Patent 4890803). Claims 1-10, 12, 13 and 15-24 are in the pending action, claims 6 and 20-24 are withdrawn from consideration, and claims 1-5, 7-10, 12, 13, and 15-19 are rejected.

**Rejections Under 35 U.S.C. § 103(a)**

Applicant respectfully submits that the prior art references cited alone or in combination do not teach or suggest each of the limitations. M.P.E.P. § 2141 sets forth the *Graham* factual inquiries that should be considered when making an obviousness rejection under Section 103: 1) ascertaining the scope and content of the prior art; 2) ascertaining the differences between the claimed invention and the prior art; and 3) resolving the level of ordinary skill in the pertinent art. (Citing *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966).) In addition, M.P.E.P. §§ 2141 and 2142 set forth that "the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit." (Citing *KSR International Co. v. Teleflex Inc. (KSR)*, 550 U.S. ___, 82 USPQ2d 1385 (2007).)

The M.P.E.P. provides several examples of rationales that can support a rejection under 35 U.S.C. § 103, namely:

(A) Combining prior art elements according to known methods to yield predictable results;
(B) Simple substitution of one known element for another to obtain predictable results;
(C) Use of known technique to improve similar devices (methods, or products) in the same way;
(D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
(E) "Obvious to try" - choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;

(F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art;

(G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

(M.P.E.P. §§ 2141 & 2143, emphasis added.) As may be seen from the emphasized portions of the above potential rationales, each rationale is dependent on showing known elements from the prior art corresponding to the limitations of the claimed invention. Each rationale therefore depends on: 1) satisfying the *Graham* inquiry, showing that the scope and content of the prior art included each limitation contained in the claimed invention, and 2) satisfactorily showing that one of ordinary skill in the art would take the art teachings to overcome the identified differences under *Graham* between the claimed invention and the individual teachings of the prior art.

Applicant respectfully submits that the references cited by the Examiner, either alone or in combination, do not teach or suggest all the limitations claimed in the claim set provided herein. In particular amended claim one is drawn to a fuselage comprising: a frontal fuselage portion that leads through a fluid; an outer fuselage surface relating with said frontal fuselage portion that receives fluid flow thereon; at least one fluid flow regulator featured and operable with said outer fuselage surface and extending at least a partial distance around said fuselage, said fluid flow regulator comprising: a leading surface; a trailing surface; an orthoganol pressure recovery drop extending a pre-determined distance between said leading and trailing edges to form a down step, said pressure recovery drop comprising at least one drop face of a calculated distance, said fluid flow regulator functioning to regulate existing pressure gradients along said fuselage to optimize and equalize said fluid flow and to reduce the separation potential of said fluid, wherein the height of a drop face varies along the length of a given drop face, and wherein the drop face further comprises a length of a blended segment which is structured to provide a smooth and gradual transition between the variable heights along the length of a given drop face and between variable height drop faces; a sub-atmospheric barrier generated at the base of said drop face as said fluid encounters and flows over said pressure recovery drop, said sub-atmospheric barrier comprising a low pressure area of fluid molecules having decreased kinetic energy that serve as a cushion between said higher kinetic energy fluid molecules in said fluid

and the molecules at said outer fuselage surface to facilitate laminar flow and assist in the reduction of the separation potential of said fluid; and a trailing edge that defines and extends from the base of said pressure recovery drop that provides a trailing flow boundary for said fluid. Independent claim 18 is drawn to a moving body comprising similar limitations.

Both independent claims 1 and 18 therefore require that the height of a drop face varies along the length of a given drop face and wherein the drop face comprises length of a blended segment which is structured to provide a smooth and gradual transition between variable height drop faces along the length of a given drop face and between variable height drop faces. These limitations are supported by the disclosure as originally filed. In fact, the specification details the importance of maintaining precise control over the height of a drop face,

> The degrees or magnitudes of these pressure gradients are also not static, but vary and fluctuate through a range during the time the fluid is flowing over the surface of the object, according to and as a result of several known factors. To account for these varying and changing or fluctuating pressure gradients, the height of each drop face on each pressure recovery drop can be designed to effectively recovery the most pressure. The height of each drop face will largely be dependent upon the amount of pressure recovery needed at a particular pressure gradient to achieve optimal fluid flow over the surface at that particular location and instance.

Page 33, lines 14-20. Use of a drop face wherein the height of a drop face varies along the length of a given drop face, and wherein the drop face further comprises a length of a blended segment which is structured to provide a smooth and gradual transition between the variable heights along the length of a given drop face and between variable height drop faces allows precise control over the changing/fluctuating pressure gradients. And, none of the references cited by the Examiner, alone or in combination, teaches or suggests such limitations.

The pending Action indicates that Wells fails to teach that the height of a drop face further comprises a length of a blended segment which transitions between the variable heights along the length of a given drop face and between variable height drop faces, and relies on figures 7-9 of Falco to teach a "blended" segment transitioning between the variable heights along the drop face and between variable height drop faces.

Falco does not illustrate a blended segment structure to provide a smooth and gradual transition between the variable heights along the length of a given drop face and between

variable height drop faces along the length of a given drop. Rather, each of the transitions between regions of serrations shown in figures 7-9 illustrate transitions that have angular drops that are at least as large of a drop as the drop face itself. Figures 7 and 8 of Falco disclose orthogonal drops between regions of serrations, and figure 9 discloses regions of serrations separated by sudden angular drops. Because Falco fails to disclose blended segment structure to provide a smooth and gradual transition between variable height drop faces along the length of a given drop face, the combination of Wells, Falco and Fronek fail to teach or suggest each of the limitations recited in the presently amended claim set.

Accordingly, Applicant respectfully submits that for at least the reasons provided herein, the references cited by the Examiner, alone or in combination, do not teach or suggest all the limitations of independent claims 1 or 18. And, because the references cited by the Examiner do not teach or suggest each and every limitation of independent claims 1 or 18, Applicant respectfully submits that the prior art references do not make obvious independent claims 1 or 18, as provided herein. Because the prior art references do not make obvious independent claims 1 or 18, Applicant respectfully submits that the prior art references cited by the Examiner do not make obvious the corresponding dependent claims, which depend from independent claims 1 or 18.

**CONCLUSION**

Applicant submits that the amendments made herein do not add new matter and that the claims are now in condition for allowance. Accordingly, Applicant requests favorable reconsideration. If the Examiner has any questions or concerns regarding this communication, the Examiner is invited to call the undersigned.

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